

SUPPORT FOR THE AMENDMENTS

Support for the amendment of Claim 1 is found on page 3, lines 10-11 (bulk polymerization), page 5, lines 24-28 (linear velocity) and page 6, lines 27-30 (stirrer diameter ratio), in the specification.

Claim 2 is amended to use description consistent with the description of Claim 1.

Claim 3 is amended to be consistent with Claim 1.

Support for the amendment of Claim 6 is found beginning with the last line on page 4 and continuing to line 2 on page 5.

Claim 9 is amended to be consistent with Claim 1.

Claims 10 and 11 are amended to use wording and structure consistent with U.S. patent law practice and to correct clerical error.

Support for the amendment of Claim 12 is found on page 6, lines 27-30, in the specification.

Claim 19 is canceled.

No new matter is believed added to this application by entry of this amendment.

Upon entry of this amendment, Claims 1-18 and 20 are active.

REMARKS/ARGUMENTS

The claimed invention is directed to a process and reactor for the bulk free radical polymerization of (meth)acrylate polymers. A continuous method for bulk polymerization which provides polymers or copolymers having a controlled molecular weight and a narrow molecular weight distribution is sought.

The claimed invention addresses this problem by providing the process according to Claim 1 and claims dependent thereon and the reactor according to Claim 12. No such process or reactor is disclosed or suggested by the cited reference of record.

Applicants wish to thank Examiner Cheung for the useful and courteous discussion of this application with Applicants' U.S. representative on April 21, 2009. At that time, Applicants' U.S. representative noted that the reactor of Nelson is neither disclosed nor suggested as being vertical. It is described as horizontal or slightly angled. Moreover, the reference does not disclose the diameter ratio of the stirrer to the diameter of the reactor as described in the claimed invention. The following reiterates and expands upon the discussion.

Applicants respectfully note that the amendments to Claim 1 made herein include the description that the monomer-initiator polymerization mixture is moved through the vertical tubular reactor at a longitudinal linear velocity of from 0.1 to 50 cm/sec, and that a ratio of an internal diameter of the vertical tubular reactor to a diameter of the stirrer in the range from 1.10 to 1.90, and the polymerizing is either bulk free-radical homogeneous solution polymerization, or bulk free-radical melt polymerization.

The rejection of Claims 1-20 under 35 U.S.C. 102(b) over Nelson et al. (US 2003/0035756) is respectfully traversed.

Nelson describes a system for rapidly preparing combinatorial libraries of materials for application development in a plug flow reactor (Abstract, [0005]). Nelson describes the invention as [0005]:

The present invention provides a new method of preparing combinatorial libraries of chemically-synthesized or blended materials in a high throughput fashion. It allows for library members to be continuously made and collected. It also allows the option of later determining the starting materials for a member by tracing back to the time when the starting materials would have been input.

In contrast, the presently claimed invention describes a process for **bulk** polymerization based on known and controlled variables selected to produce a polymer of specific properties.

The Office has stated (Official Action dated March 11, 2009, page 4, lines3-4):

Also according to the figure, item 40 appears to be a tube reactor, which meets the tubular reactor feature being claimed.

Applicants respectfully submit that Nelson does not disclose or suggest a vertically oriented tubular reactor as according to the claimed invention. The reference describes [0074]:

Although the tube can be horizontal or angled, it preferably is slightly angled upward from its input end to its output end so as to ensure that any inert gas in the STR can escape through the outlet.

Moreover, nowhere does Nelson disclose or suggest a specific diameter ratio of the stirrer and internal tube diameter being in the range 1.10 to 1.90 as presently claimed.

Applicants respectfully call the Examiner's attention to *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972) which states:

“[R]ejections under 35 U.S.C. 102 are proper only when the claimed subject matter is identically disclosed or described in “the prior art.” Thus for the instant rejection under 35 U.S.C. [102(b)] to have been proper, the . . . reference must clearly and unequivocally disclose the claimed [subject matter] or direct those skilled in the art to the [subject matter] . . .”

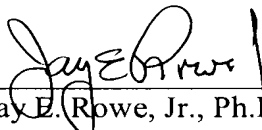
In view of all the above, Applicants respectfully submit that Nelson does not identically disclose or describe all the presently claimed subject matter and therefore according to the Arkley test cannot anticipate the presently claimed invention. Moreover, Applicants respectfully submit that as the cited reference does not provide motivation which would have led one of ordinary skill in the art, at the time of the invention, to the invention as presently claimed, it cannot render the claimed invention obvious.

Applicants respectfully submit that as indicated above, the cited reference neither anticipates nor renders the claimed invention obvious. Accordingly, withdrawal of the rejection of Claims 1-20 under 35 U.S.C. 102(b) over Nelson is respectfully requested.

Applicants respectfully submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Jay E. Rowe, Jr., Ph.D.
Registration No. 58,948

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)